CLAIMS

What is claimed is:

1. A transparent, paramagnetic label for an article, the label being essentially free of optical detection by a person with 20/20 vision from a distance of 3 feet or more comprising composition comprising polymer complexed with a sufficient amount of one or more rare earth ions selected from the group consisting of elements 64 - 69 to provide a polymer composition magnetic mass susceptibility of greater than 20 x 10^{-6} emu/g measured at 298°K.

2. A transparent, paramagnetic label for an article, the label being essentially free of optical detection by a person with 20/20 vision from a distance of 3 feet or more comprising composition comprising polymer complexed with one or more rare earth ions selected from the group consisting of elements 64 – 69, the amount of rare earth ions being greater than 9 weight percent based on the total weight of the transparent, paramagnetic polymer.

3. A transparent, paramagnetic label for an article, the label being essentially free of optical detection by a person with 20/20 vision from a distance of 3 feet or more comprising composition comprising polymer complexed with one or more rare earth ions selected from the group consisting of elements 66 – 67, the amount of rare earth ions being at least 5 weight percent based on the total weight of the transparent, paramagnetic polymer.

4. The transparent, paramagnetic label for an article of claim 1, 2, or 3 wherein the transparency is such that it is possible to transmit at least 55% of the incident light/radiation through a 1/8 inch thick test piece of the label material for greater than 50% of the wavelengths in the range of 400 to 1800 nanometers (nm).

5. A method of labeling an article comprising the steps of

(a) applying a label composition comprising a polymerization initiator and a monomer composition comprising polymerizable monomers and source of one or more rare earth ions selected from the group consisting of elements 64 – 69 to the article; and then

(b) curing the label composition to form a transparent, paramagnetic polymer label; wherein

resulting transparent, paramagnetic polymer label comprises polymer complexed with a sufficient amount of one or more rare earth ions selected from the group consisting of elements 64 - 69 to provide a polymer composition magnetic mass susceptibility of greater than 20 x 10^{-6} emu/g measured at 298°K.

6. A method of labeling an article comprising the steps of

(a) applying a label composition comprising a polymerization initiator and a monomer composition comprising polymerizable monomers and source of one or more rare earth ions selected from the group consisting of elements 64 – 69 to the article; and then

(b) curing the label composition to form a transparent, paramagnetic polymer label; wherein

resulting transparent, paramagnetic polymer label comprises polymer complexed with the amount of one or more rare earth ions selected from the group consisting of elements 64 - 69 based on the total weight of the transparent, paramagnetic polymer label being greater than 9 weight percent.

7. A method of labeling an article comprising the steps of

(c) applying a label composition comprising a polymerization initiator and a monomer composition comprising polymerizable monomers and source of one or more rare earth ions selected from the group consisting of elements 64 – 69 to the article; and then

(d) curing the label composition to form a transparent, paramagnetic polymer label; wherein

resulting transparent, paramagnetic polymer label comprises polymer complexed with the amount of one or more rare earth ions selected from the group consisting of elements 66 - 67 based on the total weight of the transparent, paramagnetic polymer label being greater than 5 weight percent.